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# **CHALLENGES FOR RESEARCH DEVELOPMENT IN ERITREA – SOME OBSERVATIONS**

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## CHALLENGES FOR RESEARCH DEVELOPMENT IN ERITREA – SOME OBSERVATIONS

Ravinder Rena\*

### Abstract:

*Research is an original contribution to the existing stock of knowledge and it is a powerful tool for knowledge generation. A newly born nation Eritrea has been facing number of challenges in research and development particularly the challenge of applying knowledge to work in the economy. Whatever solutions the government or the related institutions propose, there is a need to understand the research which plays a central role and can generate new ideas and innovative techniques. The guiding purpose of the research on which this article is based, is to explore the challenges for research and development in Eritrea.*

### INTRODUCTION

Research is defined as a scientific and systematic search for pertinent information on a specific topic. It comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.

Research is an original contribution to the existing stock of knowledge making for its advancement (AllenT., 1978). It is the pursuit of truth with the help of study, observation, comparison and experiment. In brief, the search for knowledge through objective and systematic method of finding solution to a problem is research.

A survey of geographical distribution of research capacity indicates very high correlation between a nation's research capacity and its economic development level. According to the survey, for example in Africa, there are only 71 researchers per one million people compared to almost 4000 researchers per million people in North America, Japan etc., Today research, in most of the African universities, is very poorly supported by the governments. Similarly, the African universities do not get enough local support. It is not due to lack of financial resources, because the governments have been spending enormous amounts of funds on foreign consultants albeit. However, local experts of equivalent qualification are available at much lower cost. The management of various organizations (government and private) should understand that the research is not to criticize any one but to present the facts. Research provides better opportunity to work more intelligently and efficiently. Therefore, the organizations can learn from their impediments and adopt better measures for capacity building.

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It is observed that Eritrea, like many other developing countries, has allocated substantial resources to its tertiary sector of education. It hopes to produce the required manpower essential for rapid economic development. However, the allocation of resources has not been matched with the researches conducted in the country. It is imperative to determine effectively how such resources have been used for the research development.

## **PROFILE OF ERITREA**

Eritrea is one of the youngest nations in the world, which became officially independent from Ethiopia in 1993 after a debilitating war that lasted more than thirty years. It is located in the North Eastern of Africa with a total area of 124,432 km<sup>2</sup> and a coastline on the Red Sea of almost 1000km. Eritrea, bordered in the North and West by Sudan, in the South by Ethiopia and Djibouti, and in the East by the Red Sea. It has an estimated population of about 3.9 million with a population growth per annum is estimated (1999 est.) to be 2.9 per cent. It has nine ethnic groups and six zobas (provinces/regions).<sup>1</sup>

The country is a land of varied topography, climate and rainfall. It is an arid and semi-arid region consisting of a high plateau and coastal plains. Climate varies according to the different topographical regions, mostly hot and dry along the low lands and Red Sea coast and cooler and more humid on the inland plateau and the average temperature range from 350c in the low lands to 200c in the highlands. The highlands have a moderate climate with minimal seasonal temperature variation. Temperature variations in the lowlands are much greater than in the highlands. During the hot and dry season maximum temperature can reach 450c in the low lands and 290c in the central highlands. Red Sea coastal plain, particularly in the Dalul depression in the Southeast that falls 100 meters below sea level is notable for having some of the highest temperatures recorded on earth. It can reach an extreme high temperature in the summer, with occasional highs up to 600c.

The main economic stay of the people is agriculture of which crop production followed by livestock herding are the core economic activities. The agricultural sector employs about 70 percent of the working population, but its contribution to GDP is less than 22 per cent.

This research paper is composed of five parts. The first part is introductory in nature. The second part deals with the Research Development in Eritrea with a special focus on agricultural research followed by the third part, challenges for research in the country. The fourth part provides some implications for research development in Eritrea. The fifth and final part of this paper provides concluding remarks of the study.

## **RESEARCH DEVELOPMENT IN ERITREA**

About four years ago, an International Symposium was conducted on the topic "The Role of Research in National Building" This symposium was organized by the University of Asmara during 15 - 18 June, 2002 at Inter-Continental Hotel, Asmara, Eritrea. There as many as 40 papers pertinent to different fields had been presented. The research papers presented were mainly related with agriculture, social and management sciences,

education, technology, health care and other development related issues. Scholars from inside and outside of Eritrea presented these papers at the symposium. The University of Asmara is striving hard to develop the research in the country. It is trying to develop research as "transdisciplinary, collaborative, cross national and socially accountable"

Research is a powerful tool for knowledge generation. As a newly born nation, Eritrea has to find its own ways and its own solutions to the challenge of applying knowledge to work in the economy. Whatever solutions the government or the related institutions propose, we have to understand the research plays a central role and can generate new ideas and innovative techniques. These ideas give birth to new industries, and stimulate the productivity, that would increase the standard of life for the people of Eritrea. The experience of other countries reveals that, during the last five decades, the role of universities evolved into a mere cause - and - effect relationship with society, technology and the economy. In 2002, the president of University of Asmara outlined that, "the university is reached a stage where it must pay a greater attention to building its research infrastructure and research capacity in order to create better conditions to retain its staff that it has developed a very high cost and to transform itself from a mere teaching to full-fledged research university".

#### **AGRICULTURAL RESEARCH IN ERITREA**

The basis of indigenous research has been weak. It has been characterized by a limited number of researchers, high cost, and dispersion over many research stations, and activities coupled with high turnover and unproductively (Ravinder Rena, 2003:10). It is observed that, Eritrea has focused on basic research. However, shortage of finance has undoubtedly plagued research institutes in the country. And there are severe problems in formulating and obtaining data in making any accurate estimates of the levels of output, employment consumption and distribution activities in Eritrea.

It is to be noted that the national agricultural research institution in Eritrea is in its infancy and it needs time and resources to be fully developed. It has, indeed made an impressive progress. At present, it is focusing mainly to prepare the foundations such as human and material capacity building. It has also released some improved crop varieties selected through adaptive research. They include staple crops such as sorghum vulgaris and many more are under study. It has established a germplasm bank on plants, three research stations and contacts with the international research institutions. Applied research on plant pests, livestock, forestry and horticulture are in progress. The laboratories are also under preparation. The main constraints include shortage of research scientists, high-level technicians, facilities and equipment and an overall syndrome of being young institution (FAO, 1998:18).

Eritrea, however, has been attempting to implement modern technology in specific areas in the country such as Eloborate, Halhale, Aligidher, Hagaz, Amalmalo, etc., from the mid nineties onwards. Besides, three agricultural sites in Eritrea namely; Golluj in the Gash Barka, Shi'ib in the Northern Red Sea and Hazomo in Zoba Debub are considered three "breadbasket" areas<sup>2</sup> of the nation (Ravinder Rena, 2004a:120).

Indeed, until recently, very little research addressed efficient use of inputs and balancing the external input use and internal sources of nutrients. Thus, from the policy perspective, there is case for public and private initiative on several fronts to reverse degradation – increased investment in crop and resource management research and extension, research to develop diversified and more sustainable cropping patterns and rotations.

**Participating Agencies in Research and Development:** Most of the international organizations, some bilateral and few NGOs are operating in Eritrea as partners in, inter-alia, research and agricultural development. Since recent times, participation of NGOs has been on the decline. The partners are either directly involved in research and development of agriculture and fisheries or indirectly in rural infrastructure or institutional strengthening. Within the UN-system, they include FOA, United Nations Development Program (UNDP), United Nations International Children's Emergency Fund (UNICEF), World Health Organization (WHO), World Food Program (WFP), United Nations High Commissioner for Refugees (UNHCR) and Danish Development Agency (DANIDA). Among the multilaterals and financing institutions the EU, the World Bank, International Fund for Agricultural Development (IFAD) and African Development Bank (ADB) are actively supporting the research and a wide range of sectors to create an enabling environment to achieve the food security and rural development (Ravinder Rena, 2004a: 121). Farm among bi-laterals, Denmark, Norway, and United States Agency for International Development (USAID), the Netherlands and Italy are the major partners. Among the NGOs, Africare, the Lutheran World Federation and the local churches are the main participating in the Eritrea agriculture development.

Other Special Initiatives include Sasakawa Global (SG2000) project, whose objectives are to assist small farmers to improve productivity and welfare technology transfer and to strengthen national extension services in technology dissemination. SG 2000 has started in zoba Maekel and zoba Debub. It distributes improved seed; fertilizer and pesticides to selected farmers, and gives them management and extension advice. SG 2000 provides group training in farmers' fields complemented by field days, workshops and study tours. However, the system or the role of intensification also has been advocated earlier through the SG 2000 and FSP (FAO) programme operating in Eritrea since some years (MoA, 2002: 20).

It is observed that the analysis of agricultural, industrial production in Eritrea suffers from a lack of data and sharp variations in the information available from different sources. The data related to many sectors of the economy is seems to be non-existent or less reliable. The information is also subject to considerable controversy.

As stated earlier, there is a controversy over data on production in relation to the use of different sources, including National Statistical Office (NSO), Ministry of Agriculture, Food and Agricultural Organization (FAO) etc. For instance, in agriculture, the main trend, which emerges, is either stagnation or slow pace of growth in aggregate food crop production during the period 1998-2002. However, the trends need to be treated with caution because of the problems of obtaining accurate data in Eritrea.

## **RESEARCH CENTERS IN ERITREA**

In Eritrea, there are some research-centered institutions such as Research and Documentation Center (RDC), National Statistical Office, etc., In addition every Ministry has its own research libraries and /or departments. Particularly, Research and Documentation Center is a de facto National Archives and Record Management of Eritrea. It is located in Asmara. The author had the privilege of visiting it many times for the purpose of collecting data for research. So author can vouch without doubt that RDC is a rich source for research. It can be considered as a repository of Eritrean history, culture and valued documents. It consists of written records, audio /visual records, cartographic, photographic records etc., It has the collection of Federation Period (1952-62) including daily minutes, biographies and security issues, the armed struggle, Eritrean Liberation Front (ELF) and Eritrean People's Liberation Front (EPLF) conference proceedings, Italian, the British and Ethiopian periods. It also comprises complete records of Referendum (1993), and Constitution Commission's records are some of its important collections. All these documents are found in Tigrigna, Arabic, Italian and English. It is reported that, Eritrea is the only country in Africa, which has preserved the comprehensive and systematic historical records after South Africa. It should be mentioned that, the Fourth Eritrean National Book Fair conducted recently in Expo Exhibition, Asmara, Eritrea from 14- 20 March 2005 also stimulates the researchers and supplies some source knowledge to conduct research in the country.

## **RESEARCH CHALLENGES IN ERITREA**

The Researchers in Eritrea, particularly those engaged in empirical research, are facing several challenges. Some of the important problems identified and discussed below.

*1. Lack of a scientific training in the methodology of research:* It is found to be a great impediment for researchers in Eritrea. There is paucity of competent researchers in Eritrea. Many researchers take a leap in the dark without knowing research methods. It is observed that most of the work, which goes in the name of research, is not methodologically sound. Research to many researchers and even to their supervisors/ guides, is mostly a scissors and paste job without any insight shed on the collated materials. The consequence is obvious i.e. the research results, quite often, do not reflect the realities. Therefore, a systematic study of research methodology is imperative. Before undertaking research projects, researchers should be well equipped with all methodological aspects. Thus, efforts should be made by the concerned organizations to provide short - duration intensive research courses for meeting this requirement.

*2. Lack of Interaction between University research departments:* There is a lack of coordination between the university research department on one-side business establishments, government departments and research institutions on the other side. A great deal of primary data of non-confidential nature remains untouched by the researchers in Eritrea. Therefore, efforts should be made to develop satisfactory relationship among all concerned for better and realistic researchers. Hence, there is a need to develop some mechanisms by university - industry interaction programme so that academics can get ideas from practitioners on what needs to be researched and practitioners can apply the research done by academics.

3. *Lack of Confidence in Researchers in disclosing Data:* It is noticed that, most of the business units in Eritrea, do not have the confidence that the material supplied by them to researchers will not be misused and such as they are often reluctant in supplying the required information to researchers in Eritrea. The concept of secrecy seems to be blessed to business organizations in Eritrea. However, it proves an impenetrable barrier to the researchers in the country. Thus, there is a need for generating the confidence that the information obtained from business unit/ government office will be used purely for research purpose alone.

4. *Research Studies in Eritrea are Overlapping one another:* This results in duplication and fritters away resources. This problem can be solved by proper compilation and revision, at regular intervals, of a list of subjects on which and the places where the research is going on. Due attention should be given toward identification of research problems in different disciplines of applied science, engineering, information technology and social sciences etc. which are immediate concern to the economy of the country.

5. *Lack of Code of Conduct:* There is no code of conduct for researchers in Eritrea. Hence, there is a need for developing a code of conduct for researchers, which, if adhered sincerely, can win over this problem.

6. *Lack of Secretarial Assistance:* It is also observed that, many researchers in Eritrea face the difficulty of adequate and timely secretarial assistance, including computer assistance. This indeed causes unnecessary delays in the completion of research studies. All possible efforts are made in this direction so that efficient secretarial assistance is made available to researchers in Eritrea. The Government of Eritrea should play a dynamic role to establish a competent organization in solving this problem.

7. *Unsatisfactory Mode of Functioning Libraries:* Library management and functioning is not satisfactory at many places in the country and much of the time and energy of researchers are of course spent in tracing out the books, journal and reports, etc., rather than in tracing out relevant material from them. However, the libraries are expected to be research friendly.

8. *Lack of Related Documents:* There is another important problem that many of Eritrean libraries are not able to get the old and new copies of the Proclamations, reports, statistical bulletins and other government publications in time. Besides, it is very difficult to get the current issues of some important journals. If problem is felt in libraries, which are in Asmara, think about the position of Zoba level and sub-zoba level libraries in Eritrea. Thus, efforts should be made for the regular and speedy supply of all governmental publications and important journals to reach the important libraries and other research centers.

9. *Delay in Publishing Documents:* There is also the difficulty of timely availability of published data from various government and other agencies in Eritrea. Researcher also faces the problem on account of the fact that the published data vary quite significantly because of differences in coverage by the concerned agencies.

10. *Problem of Conceptualization:* There may at times, occur the problem of conceptualization and problems relating to the data collection and related things.

### **IMPLICATIONS**

i] Encourage the need based research suitable to Eritrea; ii] Open the Post Graduate courses in the University of Asmara and/or Eritrean Institute of Technology thereby create a basis for research development courses; iii] There must be a collaboration between the University and industry in research; it is observed that different ministries have Research and Development Departments, but they have to be activated to conduct research on contemporary economic and social issues; make available the research results masses for their social and economic development; v] Apply the research outcome that leads to sustainable growth of the nation; vi] Build the information network and encourage the publishing industry which can induce the research development in Eritrea.

### **CONCLUSION**

Research is a careful investigation or inquiry especially through search for new facts in any branch of knowledge. Further, research is a systematized effort to gain new knowledge. On the other hand, research as the manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge whether that knowledge aids in construction of theory or in the practice of an art.

In a rapidly globalizing world, the awareness of the global problems and threats are rapidly developing, resulting in greater commitments to global issues such as ecology, climatic changes, gender issues, poverty, illiteracy etc., which usually but not always overlap the national priorities. Since more resources are available for research on the global issues and research priorities on global issues are more clearly defined, albeit in the developed world, maintaining a focus on national and/or regional research priorities and integrating them global issues may be a challenging. However, the research wing is lagging behind Africa in general and Eritrea in particular.

### **NOTES**

<sup>1</sup> The Nine Ethnic groups of Eritrea are: Tigirgna, Tigre, Sahoo, Afar, Bilen, Hidareb, Kunama, Nara, and Rashaida. Where as the six Administrative zobas or provinces are: Maakel, Anseba, Debub, Gash Barka, Northern Red Sea, and Southern Red Sea.

<sup>2</sup> These areas are chosen as work sites where deep agricultural research is proposed.

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